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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,064

12/16/2005

Haixiao Sun

42P21717

4017

45209

7590

12/14/2009

INTEL/BSTZ

BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP

1279 OAKMEAD PARKWAY

SUNNYVALE, CA 94085-4040

EXAMINER

SEMENENKO, YURIY

ART UNIT

PAPER NUMBER

2841

MAIL DATE

DELIVERY MODE

12/14/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,064	<b>Applicant(s)</b> SUN, HAIXIAO	
	<b>Examiner</b> YURIY SEMENENKO	<b>Art Unit</b> 2841	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 October 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 19-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 19-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/14/2009 has been entered.

### ***Response to Amendment***

2. Amendment filed on 10/14/2009 has been entered.  
Claims 11 - 18 had been cancelled.  
Claims 1-10 and 19-30 are now pending in the application.

## **Claims**

3. Claim 3 amendments, filed on 10/14/2009 are considered and acknowledged.  
The claim amendments are approved.

### ***Response to Arguments***

4. Applicant's arguments filed 10/14/2009 have been fully considered but they are not persuasive.

The Applicant argues "Chan et al. does not disclose the use of a magnetic layer but rather discloses the use of ferromagnetic materials." It is apparent that Applicant considers ferromagnetic materials as non magnetic material. Examiner respectfully

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disagrees. The magnetic materials include the ferromagnetic materials. The magnetic is a general term. The Applicant claims in independent claims 1, 19 and 28 just magnetic material, without further details about what kind of the magnetic material. Further in dependent claims 6 and 23 the Applicant directly claims "magnetic material including at least one of nickel and a ferronickel alloy." But the nickel and the ferronickel alloy both are ferromagnetic materials. Furthermore Webster's II Dictionary teaches "magnetic - 4. capable of being magnetized or of being attracted by magnet."

The Applicant argues "Chan is not concerned in anyway whatsoever about the magnetic coupling or alignment of parts." In response the Examiner note that "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). In the instant case Fukano as modified by the teaching of Chan shows all of the structural limitations of the claim.

The Applicant argues "one of ordinary skill of the art would not be inclined to combine the teaching of Chan et al. with Fukano as suggested by the Examiner". In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. In re Nomiya, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill on the art. In re McLaughlin, 170 USPQ 209 (CCPA 1971). References are evaluated by what specific disclosures. In re Bozek, 163 USPQ 545 (CCPA) 1969. In this case, such combination provides a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5.1. Claims 1, 3-10, 19 and 21-27 are rejected under 35U.S.C. 103(a) as being unpatentable over Fukano (US 5986348) hereinafter Fukano in view of Chan et al. (US 4983804) hereinafter Chan.

Regarding claim 1: Fukano discloses in Fig. 4 a microelectronic assembly comprising: a substrate 14 having bonding pads 12a and 12b disposed on a mounting surface thereof, the bonding pads including a ferromagnetic material 22 thereon (col. 2:26-27); a solidified solder 30 disposed on the bonding pads; a surface mount component 34 bonded to the substrate 14 by way of the solidified solder 30 and a magnetic layer 32 disposed on a substrate side thereof (col. 2:48-53), the magnetic layer 32 to cooperate with the ferromagnetic material in the bonding pads to establish a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering (col. 2:45-53). But the magnetic layer 32 is removed after magnetized.

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So Fukano doesn't explicitly teach a surface mount component including a magnetic layer.

Chan teaches in fig. 4 a microelectronic assembly comprising: a substrate 10 having bonding pads 34, 35 disposed on a mounting surface thereof, mount component 40 (co. 4:10-13) bonded to the substrate including a magnetic layer 21, fig. 1 disposed on or in a component (col. 4: 3-6). and col. 5:3-14).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano to include in the invention a surface mount component including a magnetic layer, as taught by Chan in order to provide a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering.

Although Fukano and Chan do not explicitly teach a magnetic layer disposed on a substrate side thereof, Chan teaches in col. 4: 3-6 and col. 5:3-14 "a layer of ferromagnetic material could be deposited in the bottom surface of the package adjacent to the pads [pads 43 and 44, fig. 4]. Further the courts have held to be within the general skill of a worker in the art to rearrange of parts (in this case - a magnetic layer), as matter of obvious engineering choice. In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano and Chan to include in the invention a magnetic layer disposed on a substrate side thereof, in order to provide a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering, and since the courts have held to be within the general skill of a worker in the art to rearrange of parts (in this case - a magnetic layer), as matter of obvious engineering choice. In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

Regarding claim 19: Fukano discloses in Fig. 4 a surface mount component 34 bonded to a bonding pads 12a and 12b of a substrate 14 by way of solidified solder 30, the surface mount component 34 including a magnetic layer 32 disposed on a substrate

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side thereof (col. 2:48-63), the magnetic layer to cooperate with a ferromagnetic material in the bonding pads to establish a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during, (col. 2:45-53). But the magnetic layer 32 is removed after magnetized. So Fukano doesn't explicitly teach a surface mount component including a magnetic layer.

Chan teaches in fig. 4 a microelectronic assembly comprising: a substrate 10 having bonding pads 34, 35 disposed on a mounting surface thereof, mount component 40 (co. 4:10-13) bonded to the substrate including a magnetic layer 21, fig. 1 disposed on or in a component (col. 4: 3-6). and col. 5:3-14).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano to include in the invention a surface mount component including a magnetic layer, as taught by Chan in order to provide a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering.

Although Fukano and Chan do not explicitly teach a magnetic layer disposed on a substrate side thereof, Chan teaches in col. 4: 3-6 and col. 5:3-14 "a layer of ferromagnetic material could be deposited in the bottom surface of the package adjacent to the pads [pads 43 and 44, fig. 4]. Further the courts have held to be within the general skill of a worker in the art to rearrange of parts (in this case - a magnetic layer), as matter of obvious engineering choice. In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano and Chan to include in the invention a magnetic layer disposed on a substrate side thereof, in order to provide a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering, and since the courts have held to be within the general skill of a worker in the art to rearrange of parts (in this case - a magnetic layer), as matter of obvious engineering choice. In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

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Regarding claims 3, 6 and 23: Fukano as modified by the teaching of Chan, discloses the assembly having all of the claimed features as discussed above with respect to claim 1(19), wherein the bonding pads 12a and 12b on the substrate 14 comprise ENIG pads (col. 2:11-45). It does not explicitly disclose the ferromagnetic material in the bonding pads comprise nickel; wherein the magnetic layer comprises a magnetic material including at least one of nickel and a ferronickel alloy.

Chan teaches the ferromagnetic material in the bonding pads 43, 44, fig. 4 (col. 5:4-9) comprise nickel (col 3:7-11); wherein the magnetic layer comprises (col. 2:52-61) a magnetic material including at least one of nickel and a ferronickel alloy (col. 5:4-10).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano and Chan to include in the invention wherein the ferromagnetic material in the bonding pads comprise nickel; and wherein the magnetic layer comprises a magnetic material including at least one of nickel and a ferronickel alloy, as taught by Chan in order to provide a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering.

Regarding claims 4-5 and 21-22: Fukano as modified by the teaching of Chan, discloses the assembly having all of the claimed features as discussed above with respect to claim 1(19), wherein soldering comprises a reflow process, and wherein the magnetic layer comprises a magnetic material. Fukano teaches the content of the ferromagnetic material can be adjusted to obtain the desired amount of magnetism. It does not explicitly disclose a magnetic material having a Curie temperature that is above a peak reflow temperature range of the solder; and wherein the magnetic layer comprises a magnetic material having a remanence adapted to have a minimum impact on a performance of circuits within the SMT component or within the substrate.

Chan teaches in fig. 3 how to choose content of the alloy of the ferromagnetic material to have specific the Curie temperature and having a remanence adapted to have a minimum impact on a performance.

Therefore it would have been obvious to one of ordinary skill in the art, at the



time the invention was made for Fukano and Chan to include in the invention a magnetic material having a Currier temperature that is above a peak reflow temperature range of the solder; and wherein the magnetic layer comprises a magnetic material having a remanence adapted to have a minimum impact on a performance of circuits within the SMT component or within the substrate, as taught by Chan in order to provide a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering.

Regarding claims 7 and 24: Fukano as modified by the teaching of Chan, discloses the assembly having all of the claimed features as discussed above with respect to claim 1(19). Fukano teaches the content and thickness of the ferromagnetic material can be adjusted to obtain the desired amount of magnetism. Although Fukano and Chan do not explicitly disclose the magnetic layer has a thickness between about 1 micron and about 5 microns, Chan teaches the magnetic layer 19, fig. 1 has a thickness between about 200 micron (col. 3:37-39). Further the courts have held that change in size of configuration, without any criticality, is within the level of skill in the art as particular size claimed by applicant is nothing more than one of numerous shape or size that a person of ordinary skill in the art would have found obvious to provide using routine experimentation based on its suitability for the intended use of the invention, See *In re Dailey*, 149 USPQ 47 (CCPA 1966). Furthermore "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to change the thickness of the magnetic layer disclosed by Fukano and Chan to a thickness between about 1 micron and about 5 microns in order to obtain the desired amount of magnetism and since the courts have held that change in size configuration, without any criticality, is within the level of skill in the art as particular size claimed by applicant is nothing more than one of numerous shape or size that a person of ordinary skill in the art would have found obvious to provide using

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routine experimentation based on its suitability for the intended use of the invention, See *In re Dailey*, 149 USPQ 47 (CCPA 1966).

Regarding claims 8 and 25: Fukano as modified by the teaching of Chan, discloses the assembly having all of the claimed features as discussed above with respect to claim 1(19). It does not explicitly disclose the magnetic layer is one of a continuous layer and a discontinuous layer.

Chan teaches in fig. 1 the magnetic layer 21 is one of a continuous layer and a discontinuous layer (col. 2:52-61).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano and Chan to include in his invention the magnetic layer is one of a continuous layer and a discontinuous layer, as taught by Chan in order to reduce production's cost.

Regarding claims 9-10 and 26-27: Fukano as modified by the teaching of Chan, discloses the assembly having all of the claimed features as discussed above with respect to claim 8. It does not explicitly disclose the magnetic layer comprises sublayers defining a pattern adapted to minimize impact on circuits of the surface mount component from a magnetic field of the magnetic layer; and the magnetic layer comprises sublayers defining a pattern corresponding to a pattern of the bonding pads on the substrate.

Chan teaches in fig. 1 the magnetic layer 21 comprises sublayers defining a pattern (col. 2:26-36) adapted to minimize impact on circuits of the surface mount component from a magnetic field of the magnetic layer; and the magnetic layer comprises sublayers defining a pattern (col. 5: 9-11) corresponding to a pattern of the bonding pads on the substrate. Further the courts have held that change in shape of configuration, without any criticality, is within the level of skill in the art as particular shape claimed by applicant is nothing more than one of numerous shape that a person of ordinary skill in the art would have found obvious to provide using routine

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experimentation based on its suitability for the intended use of the invention, See *In re Dailey*, 149 USPQ 47 (CCPA 1966).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano and Chan to include in the invention the magnetic layer comprises sublayers defining a pattern adapted to minimize impact on circuits of the surface mount component from a magnetic field of the magnetic layer; and the magnetic layer comprises sublayers defining a pattern corresponding to a pattern of the bonding pads on the substrate, as taught by Chan in order to reduce production's cost and since the courts have held that change in shape or change in size configuration, without any criticality, is within the level of skill in the art as particular shape or size claimed by applicant is nothing more than one of numerous shape or size that a person of ordinary skill in the art would have found obvious to provide using routine experimentation based on its suitability for the intended use of the invention, See *In re Dailey*, 149 USPQ 47 (CCPA 1966).

5.2. Claims 2 and 20 are rejected under 35U.S.C. 103(a) as being unpatentable over Fukano in view of Chan as applied to claims 1, 3-10, 19 and 21-27 and further in view of Admitted by Applicant Prior Art ( Background of Invention section), hereinafter AAPA.

Regarding claims 2 and 20: Fukano as modified by the teaching of Chan, discloses the assembly having all of the claimed features as discussed above with respect to claim 1(19). It does not explicitly disclose the surface mount component is a capacitor.

AAPA teaches in fig. 1a, b the surface mount component is a capacitor 16, (page 2, [0004]).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano and Chan to include in the invention the surface mount component is a capacitor, as taught by AAPA in order to reduce production's cost.

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5.3. Claims 28 and 30 are rejected under 35U.S.C. 103(a) as being unpatentable over Fukano in view of Chan and further in view of Dalal et al., (US 6618267) hereinafter Dalal.

Regarding claim 28: Fukano discloses in Fig. 4 a system comprising: a microelectronic assembly including: a substrate 14 having bonding pads 12a and 12b disposed on a mounting surface thereof, the bonding pads including a ferromagnetic material 22 therein (col. 2:26-27); solidified solder 30 disposed on the bonding pads; a surface mount component 34 bonded to the substrate 14 by way of the solidified solder 30 and a magnetic layer 32 disposed on a substrate side thereof (col. 2:48-53), the magnetic layer 32 being adapted to cooperate with a ferromagnetic material 22 in the bonding pads to establish a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering (col. 2:45-53). But the magnetic layer 32 is removed after magnetized. So Fukano doesn't explicitly teach a surface mount component including a magnetic layer.

Chan teaches in fig. 4 a microelectronic assembly comprising: a substrate 10 having bonding pads 34, 35 disposed on a mounting surface thereof, mount component 40 (co. 4:10-13) bonded to the substrate including a magnetic layer 21, fig. 1 disposed on or in a component (col. 4: 3-6). and col. 5:3-14).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano to include in the invention a surface mount component including a magnetic layer, as taught by Chan in order to provide a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering.

Although Fukano and Chan do not explicitly teach a magnetic layer disposed on a substrate side thereof, Chan teaches in col. 4: 3-6 and col. 5:3-14 "a layer of ferromagnetic material could be deposited in the bottom surface of the package adjacent to the pads [pads 43 and 44, fig. 4]. Further the courts have held to be within the general skill of a worker in the art to rearrange of parts (in this case - a magnetic

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layer), as matter of obvious engineering choice. In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano and Chan to include in the invention a magnetic layer disposed on a substrate side thereof, in order to provide a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering, and since the courts have held to be within the general skill of a worker in the art to rearrange of parts (in this case - a magnetic layer), as matter of obvious engineering choice. In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

Fukano and Chan fail also to explicitly teach a main memory coupled to the microelectronic assembly.

Dalal teaches in fig. 1a, b, c, a main memory 116 and 118 coupled to the microelectronic assembly 110.

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano and Chan to include in the invention the a main memory coupled to the microelectronic assembly, as taught by Dalal in order to create microelectronic device.

Regarding claim 30: Fukano as modified by the teaching of Chan and Dalal, discloses the assembly having all of the claimed features as discussed above with respect to claim 28, wherein the bonding pads 12a and 12b on the substrate 14 comprise ENIG pads (col. 2:11-45). It does not explicitly teach the ferromagnetic material in the bonding pads comprise nickel.

Chan teaches the ferromagnetic material in the bonding pads 43, 44, fig. 4 (col. 5:4-9) comprise nickel (col 3:7-11); wherein the magnetic layer comprises (col. 2:52-61) a magnetic material including at least one of nickel and a ferronickel alloy (col. 5:4-10).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukanoto, Chan and Dalal include in his invention

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wherein the ferromagnetic material in the bonding pads comprise nickel, as taught by Chan in order to provide a magnetic force of a sufficient magnitude to hold the surface mount component on the substrate before and during soldering.

5.4. Claim 29 is rejected under 35U.S.C. 103(a) as being unpatentable over Fukano in view of Chan and in view of Dalal as applied to claims 28 and 30 and further in view AAPA.

Regarding claim 29: Fukano as modified by the teaching of Chan and Dalal, discloses the assembly having all of the claimed features as discussed above with respect to Claim 29. It does not explicitly teach the surface mount component is a capacitor.

AAPA teaches in fig. 1a, b the surface mount component is a capacitor 16, (page 2, [0004]).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Fukano, Chan and Dalal to include in the invention the surface mount component is a capacitor, as taught by AAPA in order to reduce production's cost.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuriy Semenenko whose telephone number is (571) 272-6106. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jinhee J. Lee can be reached on (571)- 272-1977. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yuriy Semenenko/

Examiner, Art Unit 2841